

Section 4-2000 River and Stream Corridor Overlay District (RSCOD)

Comment: This section repeals and replaces Section 4-1500, Floodplain Overlay District (FOD), and Section 5-1000, Scenic Creek Valley Buffer, of the Loudoun County Zoning Ordinance to implement the river and stream protection system presented in the Green Infrastructure policies of the Revised General Plan. All procedures by which the regulations will be applied, including conservation design, will be located in Article VI, "Development Process and Administration," (to be drafted). New definitions to be added to Article VIII of the Zoning Ordinance are appended to these regulations for convenience of the reviewer.

The term "Floodplain Overlay District" should be replaced throughout the Zoning Ordinance with "River and Stream Corridor Overlay District."

Table of Contents included for review purposes only.

4-2001	Purpose and Intent.....	1
4-2002	Authority.....	2
4-2003	Applicability and Exemptions.....	2
4-2004	Review Procedures.....	3
4-2005	Establishment of Protected Corridors.....	4
4-2006	Permitted Uses and Activities.....	6
4-2007	Special Exception Uses.....	7
4-2008	Development Standards.....	8
4-2009	Permitted Reductions in Protected Corridor Width.....	11

4-2001 Purpose and Intent. These provisions are intended to implement the policies in the Loudoun County Revised General Plan and to promote, preserve, and enhance the important hydrologic, biological, ecological, aesthetic, recreational, and educational functions that river and stream corridors provide. Specifically, the provisions are intended to:

- (A) Protect life and prevent or minimize property damage from flooding; and reduce public costs for flood control, rescue, and relief efforts occasioned by unwise use or occupancy of floodplains;
- (B) Comply with federal and state laws and regulations that address the need for floodplain management and protection;
- (C) Qualify Loudoun County residents for the insurance and subsidies provided by the National Flood Insurance Program;
- (D) Conserve the natural state of watercourses and stream banks;

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(E) Maintain water quality and minimize or remove pollutants delivered in stormwater through the natural capacity of riparian areas to filter and purify run-off;

(F) Maintain and provide a riparian canopy to shade streams and promote desirable aquatic organisms;

(G) Conserve wildlife habitat and corridors; and

(H) Protect the scenic value of the rivers and streams of Loudoun County.

4-2002 Authority. Authority for these provisions includes:

(A) Flood Damage Reduction Act, Va. Code Sections 62.1-44.108 et seq.

(B) Chapter 11, Title 15.2, Code of Virginia (Planning, Subdivision of Land and Zoning).

(C) Soil Conservation Districts Law, Va. Code Sections 21-2(c), 21-2(d).

(D) Virginia Environmental Quality Act, Va. Code Section 10-178.

(E) Erosion and Sediment Control Act, Va. Code Section 21-89.2.

(F) Potomac River Basin Compact, Va. Code Section 62.1-69.1.

(G) National Flood Insurance Act of 1968, 42 U.S.C. 4001 et seq.

(H) Section 10. 1-2100 et seq. (The Chesapeake Bay Preservation Act) and Section 15.1-489, of the Code of Virginia.

4-2003 Applicability and Exemptions

(A) **Applicability—Land Area & Features Included in the RSCOD.** This Section 4-2000 shall apply to all land areas and natural features within the River and Stream Corridor Overlay District (RSCOD), as shown on the official River and Stream Corridor Overlay District Map of Loudoun County (“RSCOD Map”), attached to this Ordinance as Appendix ___, and which, together with all explanatory matter thereon, is hereby incorporated by reference. The description of the Protected River and Stream Corridors (“Protected Corridors”) in RSCOD is set forth in Section 4-2005, “Establishment of Protected Corridors.” (*Note: Map sources are listed on RSCOD Map.*)

(B) **Applicability—Covered Activities.** This Section 4-2000 shall apply to all proposed land disturbing activity, including new single-family development and subdivision, which occur within the RSCOD Protected River and Stream Corridors (“Protected Corridors”). Expansion, alteration, or reconstruction of buildings, structures, and impervious surface areas existing on _____ (**Note:** *insert effective date of ordinance (or original FOD ordinance?)*) shall not be covered, provided that such alteration does not increase the existing footprint and is not considered a substantial improvement, as defined by this Zoning Ordinance (*see new definition*).

(C) **Exemptions.** The following land disturbing activities are exempt from this Section 4-2000’s requirements, subject to the specific limits set forth below:

(1) **Existing Agricultural Operations.** This section shall not apply to agricultural operations located in the Protected Corridor and existing on _____ (**Note:** *insert effective date of ordinance*) that are covered by a Conservation Farm Management Plan, approved by the Loudoun County Soil and Water Conservation District that includes the application of best management practices.

(2) **Existing Legal Lots within the Protected Corridor.** A legal lot of record intended for residential development, which lot was: (a) in existence on _____ (**Note:** *insert effective date of ordinance*); and (b) located in whole or in part within the Protected Corridor, but outside the 100-year floodplain, may be developed for a single-family detached dwelling use if no other feasible alternative exists. Such dwelling shall be sited on the lot as far from the stream bank as feasible. Development on such lot shall be subject to the (**proposed**) Conservation Design Process in Article VI, “Development Process and Administration,” (*to be drafted*).

(D) **Waivers.** Administrative waivers of standards are allowed, in accordance with provisions in Article VI, “Development Process and Administration,” (*to be drafted*).

4-2004 Review Procedures. All development approvals, review procedures, modifications/waivers, and density calculations in the RSCOD are governed by Article VI, “Development Process and Administration,” (*to be drafted*), and (**proposed**) Section ___, “Conservation Design Process.”

4-2005 Establishment of Protected Corridors

(A) General Rule--Protected Corridors along Streams and Rivers

(1) Minimum Protected Corridor Width. Except for those waters listed under section 4-2005(B)(1) below, for all stream and river segments draining 100 acres or more and shown on the RSCOD Map, the Protected Corridor shall be the greater of (1)(a) or (1)(b) below:

(a) The cumulative width of the following:

(i) The 100-year floodplain, and

(ii) Steep slopes (greater than 25%) starting within 50 feet of the edge of the floodplain and extending no greater than 100 horizontal feet beyond the edge of the floodplain, and

(iii) A 50-foot Management Buffer measured from the edge of the 100-year floodplain in a(i) above or from the steep slope areas in (a)(ii) above, whichever provides the greater cumulative Protected Corridor width.

OR

(b) A Minimum Stream Buffer measured as the area located within 100 feet of both sides of the stream or river, measured as a line extending perpendicularly from the stream bank of the active channel of the stream or river.

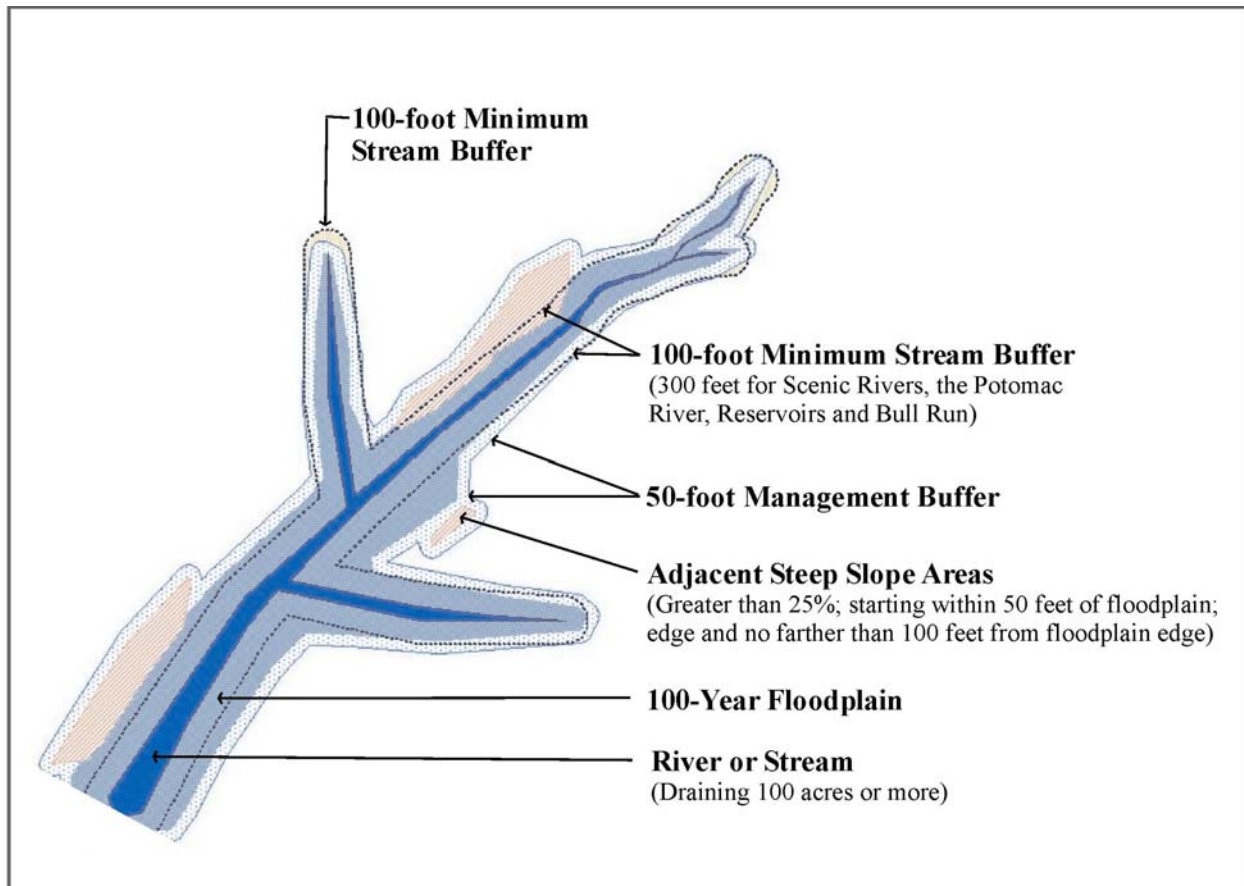


Figure __: Protected River and Stream Corridor ("Protected Corridor") Diagram

(B) **Protected Corridors along Scenic Rivers/Streams and Water Supply Reservoirs**

(1) **Minimum Protected Corridor Width.** For the following scenic rivers and streams and water supply reservoirs, the Protected Corridor shall be the greater of the Protected Corridor width required by Subsection 4-2005(A), General Rule—Protected Corridors along Streams and Rivers, above, or the area located within three-hundred (300) feet from:

- (a) The defined stream bank of the Potomac River;
- (b) The defined stream bank of Bull Run;
- (c) The stream bank of the active channel for the state scenic river designated portions of Goose Creek;

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- (d) The stream bank of the active channel for the state scenic river designated portions of Catoctin Creek; and
- (e) The projected shoreline of any existing drinking water supply reservoir as denoted on the RSCOD map and any proposed reservoir.

4-2006 Permitted Uses and Activities

- (A) **General.** Only those uses and activities set forth in this subsection shall be permitted by right or special exception within a Protected Corridor, and land so encumbered may be used in a manner permitted in the underlying district only if and to the extent such use is also permitted in the overlay district.
- (B) **Permitted Uses.** The following uses shall be permitted in a Protected Corridor, subject to development standards in this section:
- (1) Roads, railroad tracks, bridges, paths and trails, and utilities that cross a stream or river;
 - (2) Paths and trails, including footpaths, bicycling or hiking paths, and horse trails;
 - (3) Stormwater management facilities;
 - (4) Public lakes, ponds, and water supply reservoirs;
 - (5) Historic structures and archaeological sites;
 - (6) Passive recreation, limited to hiking, non-motorized biking, horseback riding, picnicking, camping, climbing, hunting, fishing, and wildlife viewing;
 - (7) Active recreation on the waters only, limited to swimming and non-powered boating with public points of entry identified and approved by the County;
 - (8) Silviculture, limited to tree and shrub planting, selective tree clearing and clearing of invasive species, and tree pruning and trimming;
 - (9) Wildlife and fisheries management projects that are consistent with the purposes of the Federal Endangered Species Act or consistent

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with the regulations, policies, and habitat programs of the State of Virginia;

(10) Conservation and education activities, limited to Adopt-a-Stream and Keep Loudoun Beautiful programs, teaching visits, and scientific study of nature and archaeological sites;

(11) Stream and riparian restoration projects; and

(12) Water quality monitoring and stream gauging.

(C) **Existing Non-Conforming Uses.** Except for specifically exempted uses that existed prior to the adoption of this section, uses that are not in conformance with this section shall be considered nonconformities subject to Section 1-400, "Nonconformities," of this Ordinance.

4-2007 Special Exception Uses

(A) **General.** The following uses may be permitted in a Protected Corridor by special exception, subject to the procedures and criteria stated in Section 6-1300, "Special Exception:"

(1) Marinas for non-powered boats, boat rental entry points, docks and piers; and

(2) Structures or uses required for the operation of a public utility, such as utility rights-of-way and crossings, the intake and outfall structures of power plants, sewage treatment plants, water treatment plants, and storm sewers.

(B) **Additional Criteria for a Special Exception Use.** In considering applications for a special exception, the Board of Supervisors shall find that the following standards, in addition to those of Section 6-1300, "Special Exception," have been met:

(1) The proposed use will not increase the danger to life and property due to increased flood heights or velocities.

(2) The proposed use will not increase the danger that materials may be swept downstream to the injury of others.

(3) The proposed water supply and sanitation systems are designed to prevent disease, contamination, and unsanitary conditions.

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- (4) The proposed use or structure must be located and designed to limit its susceptibility to flood damage, and alternative locations that are not subject to flooding must be considered.
- (5) The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site shall not cause significant damage, nor increase erosion downstream due to increased flood heights or velocities.
- (6) The proposed use will not adversely affect water quality or impair the function or chemical, physical, biological, and ecological integrity of the stream or river corridor.

4-2008 Development Standards. All development and land disturbing activities permitted by right or special exception in the RSCOD Protected Corridor shall adhere to the following development standards:

***Comment:** Some of the following provisions may be moved to the FSM during Phase Two of Code revisions.*

- (A) **General.** To the maximum extent feasible, all uses and activities shall minimize land disturbance in the Protected Corridor and shall adhere to the Conservation Design procedures and standards set forth in *(proposed)* Section ____.
- (B) **Vehicular, Pedestrian, and Utility Crossings.** Road, driveway, railroad track, path and trail, and utility crossings of streams and rivers shall be subject to the conditions in Chapter 5 of the Facilities Standards Manual and subject to the following conditions:
- (1) The proposed activity shall be supported by an analysis conducted by a qualified and licensed professional engineer (P.E.) or Class B surveyor (L.S.) that:
- (a) Shows no available, economically feasible alternative to locating within the Protected Corridor or to crossing the river or stream; and
- (b) Shows that the crossing is designed to avoid or mitigate environmental damage to the Protected Corridor and disturbance of the aquatic environment, alteration of the waterway, downstream migration of sediment, damage to bank stability, and damage to stream or river bank and riparian area vegetation.

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(2) The applicant shall mitigate any disturbance of the Protected Corridor by grading and planting to enhance the biological and hydrologic processes. Provisions for reclamation of the disturbed area shall be approved by the County and included in any development or subdivision agreement for the project, with adequate security to guarantee that the reclamation will be completed.

(3) The angle of any crossing shall be perpendicular to the river or stream to minimize the length of the crossing and to minimize clearing and other land disturbance.

(4) Utility crossings shall be combined with road, railroad track, and driveway crossings when feasible. Crossings in a subdivision shall be spaced with a minimum separation of one thousand (1,000) feet unless the Conservation Design Process shows that closer spacing will reduce adverse environmental impacts.

(5) Rights-of-way shall be the minimum width necessary for installation, access, and maintenance.

(6) Utility corridors shall be located at the outer edge of the Protected Corridor and access roads for maintenance of utilities shall be located outside of the Protected Corridor.

(7) The County may allow the use of low-water bridges for crossings intended for use only by pedestrians, equestrians, or bicyclists, but not for crossings designated for automobiles or other vehicles.

(8) Vehicular crossings shall be designed to allow wildlife to pass under the crossings.

(C) **Stormwater Management.** Stormwater management structures, practices, and activities permitted in the Protected Corridor, shall be subject to **(proposed)** development standards in Chapter 5 of the Facilities Standards Manual, and shall adhere to the Virginia Stormwater Management Handbook and the Virginia Erosion and Sediment Control Handbook.

(1) The proposed stormwater facilities shall be supported by an analysis conducted by a qualified professional that shows:

(a) No technically and economically feasible alternative location outside the Protected Corridor is available; and

Public Review Draft

(b) The project is either necessary for flood control or significantly improves the water quality or habitat in the Protected Corridor.

(2) Stormwater management in new developments and subdivisions shall utilize on-site and non-structural alternatives to the maximum extent feasible before structural facilities will be allowed within the Protected Corridor.

(3) Non-point source pollution load of nutrients and sediment shall not exceed the pre-development load, as specified in Chapter 5 of the Facilities Standards Manual.

(4) To the maximum extent feasible, stormwater management facilities shall be located on previously disturbed lands.

(5) The area cleared for stormwater management facilities shall be limited to the minimum required for construction and adequate access for maintenance, as outlined in the most recent addition of the Facilities Standards Manual and the Virginia Stormwater Management Handbook.

(6) Materials dredged or otherwise removed from a stormwater or best management practice facility shall be stored outside the Protected Corridor.

(D) **Public Lakes, Ponds, and Reservoirs.** Public lakes, ponds, and reservoirs shall be designed using best management practices and with measures to mitigate the following potential adverse environmental impacts:

(1) Wetland loss;

(2) Forest habitat loss;

(3) Barriers to fish migration;

(4) Groundwater contamination;

(5) Downstream warming;

(6) Downstream water quality during dry weather;

(7) Potential interruption of downstream bedload movement; and

(8) Water quality of the pond or lake effluent.

Comment: *Additional detailed mitigation standards should be developed in the FSM.*

(E) **Recreation Facilities.** Recreation facilities shall be subject to the following standards:

(1) Access to waterways shall be limited to specific points of entry as approved by the County.

(2) Facilities shall be located on previously disturbed areas to the maximum extent feasible.

(3) Facilities shall be designed to minimize disturbance to the biological and hydrologic processes in the Protected Corridor.

(4) All paths and trails shall be constructed of permeable materials (i.e., permeable soft or pervious hardstand materials, including but not limited to pervious bitumen or concrete).

(5) The applicant shall mitigate disturbance of the Protected Corridor that exceeds 10,000 square feet in area by providing restoration in other areas in the Protected Corridor in accordance with requirements in Section 4-2008(I), "Restoration."

(F) **Pesticides.** The use, storage or application of pesticides is prohibited within 100-feet of a stream or river bank, except for spot spraying of noxious weeds or non-native species.

(G) **Silviculture.** Silviculture shall be subject to best management practice measures and shall be conducted only in accordance with an approved Forest Management Plan that is approved by both the Virginia Division of Forestry and the County.

(H) **Tree and Vegetation Conservation.** Natural vegetation in the Protected Corridors shall be preserved in accordance with Chapter 7 of the Facilities Standards Manual (*proposed sections* (7.3 – Tree Conservation, and 7.9 Establishment of Riparian Protected Corridors). All existing, healthy trees and vegetation within the Protected Corridor area shall be supplemented with additional native planting and landscaping approved by the County where necessary to provide adequate screening or to repair damaged riparian areas. This provision shall not prohibit removal of dead trees/vegetation that present a danger to public safety, noxious weeds, non-native trees/vegetation that threaten native species growth or

reintroduction, or any other tree/vegetation that is a threat to the public health or safety.

(I) **Restoration.** Stream bank stabilization and vegetation restoration shall be required if a site specific study shows evidence of any of the following conditions:

- (1) erosion that is affecting water quality;
- (2) stream banks that are unstable;
- (3) threatened or endangered species on the site.

Restoration shall be performed in accordance with Chapter 7 of the Facilities Standards Manual (*proposed section*) (7.9, Establishment of Riparian Protected Corridors). Properties that do not exhibit conditions (1) through (3), above, may be eligible to reduce the width of the Protected Corridor (see Section 4-2009, “Permitted Reductions in Corridor Width.”)

Comment: *Ensure that proposed FSM standards and terminology addressing the areas near the bank of the river (i.e., termed “Streamside Zone” in FSM) is revised to be consistent with new provisions in Sections 4-2008 and 4-2009.*

4-2009

Permitted Reductions in Protected Corridor Width. Where the Protected Corridor on a specific property includes a 50-foot Management Buffer as established by Section 4-2005(A)(1)(a) above, the County may approve a reduction of or elimination of the 50-foot Management Buffer according to the following criteria:

(A) **Economic Use of Property.** The reduction or elimination of the 50-foot Management Buffer is necessary to provide a viable and reasonable economic use of the property. The Zoning Administrator shall require substantial mitigation of any adverse environmental impacts the reduction or elimination may have on primary or secondary conservation areas located on- or off-site as identified through the (*proposed*) Conservation Design Process in Section _____. Any reduction shall be the minimum necessary to achieve a reasonable buildable area for a principal structure and necessary utilities.

(B) **Restoration Incentive.** The County may allow a reduction or elimination of the 50-foot Management Buffer where the goal is to supplement native vegetation and restore the stream riparian area to an ecologically healthier state in exchange for the following restoration measures:

Public Review Draft

- 1 (1) The applicant shall establish a restoration area equal to the area
2 encroaching into the Management Buffer elsewhere on the lot or
3 parcel in a way that maximizes the objectives of the Protected
4 Corridor; and
- 5 (2) The applicant shall provide an approved Tree Conservation Plan
6 for the area of restoration and reforestation, according to (*proposed*
7 *section*) Chapter 7 of the Facilities Standard Manual that specifies
8 plant materials, density for shrubs and trees, species and
9 preparation of planting sites, and an approved Forest Management
10 Plan for long-term care and maintenance.